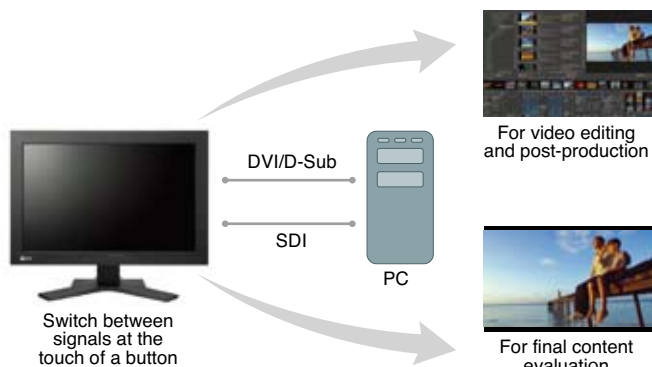# EIZO

ColorEdge

# Color stability and accuracy for editing and reference.

Editing and Master Monitor

The ColorEdge CG232W meets the various demands of post-production, including color grading, image evaluation and nonlinear editing for broadcasting. A button on the monitor's front bezel for switching between PC and SDI signals lets studio professionals do both video editing and reference (playback) on a single monitor.

DVI/D-Sub

SDI

PC

For video editing and post-production

For final content evaluation

Switch between signals at the touch of a button

Preset Color Modes

The ColorEdge CG232W, CG243W, and CG245W offer preset color modes that reproduce the color spaces used in broadcasting and digital cinema such as EBU, SMPTE-C, Rec709 and DCI almost in their entirety. To correct color drift that naturally occurs over time with any LCD monitor, the bundled ColorNavigator software comes with a reset function for returning the preset modes to their factory settings.

- CG232W
- PAL/SECAM (EBU)
- SMPTE-C (CCIR 601-5)
- Digital Cinema
- HDTV (Rec709)
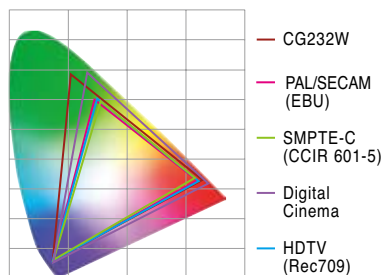
Remote Control Console

For faster and more convenient adjustment of screen settings, a remote control console (sold separately) is available for the ColorEdge CG232W. Powered via a USB connection to the monitor, this console gives you one-touch access to frequently used settings such as brightness, gamma, color temperature, black level, RGB gain, and screen size. It includes a rotary wheel so you can quickly adjust settings to the desired level.

3D LUT for More Accurate Grayscale Display

All ColorEdge models incorporate a look-up table (LUT) for accurate color and grayscale rendering, but the ColorEdge CG232W, CG243W, and CG245W utilize a new EIZO-developed 3D LUT. While a typical 1D LUT adjusts color on separate tables for each of red, green, and blue, a 3D LUT accomplishes this using a single, mixed-color cubic table. This improves the monitors' additive color mixture (combination of RGB), a key factor in their ability to display neutral gray tones.

3D LUT image
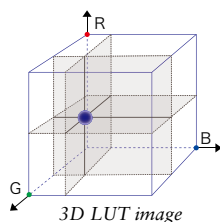
10-Bit Video Support

The ColorEdge CG232W's input support includes BNC × 2 (SD-SDI/HD-SDI × 2 or dual-link SDI × 1) for transferring uncompressed video signals, DVI-D, and D-Sub for direct connection to broadcast and studio sources as well as desktop PCs. YCbCr 4:2:2, YCbPr 4:2:2, YPbPr 4:4:4 and RGB 4:4:4 SDI signal formats are all supported. The CG243W and CG245W come equipped with DisplayPort inputs so they accept 10-bit PC video signals and display 1.07 billion colors from a pallet of 68 billion. 10-bit video support enables these monitors to support 64 times the colors compared to standard 8-bit display, and minimizes color and grayscale banding.

A graphics board and software which support 10-bit output are necessary for 10-bit display with the CG245W and CG243W.

SD Input Signals and Formats (CG232W)

Signal	8-bit Format	10-bit Format
720×487/59.94i	YCbCr 4:2:2	
720×576/50i	YCbCr 4:2:2	
1280×720/60p	YPbPr 4:2:2	
1280×720/59.94p	YPbPr 4:2:2	
1280×720/50p	YPbPr 4:2:2	
1280×720/30p	YPbPr 4:2:2	
1280×720/29.97p	YPbPr 4:2:2	
1280×720/25p	YPbPr 4:2:2	
1920×1035/60i	YPbPr 4:2:2	
1920×1080/60i	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/59.94i	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/50i	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/30p	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/30PsF	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/29.97p	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/29.97PsF	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/25p	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/25PsF	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/24p	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/24PsF	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/23.98p	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/23.98PsF	YPbPr 4:2:2	YPbPr,RGB 4:4:4
1920×1080/60p	YPbPr 4:2:2	
1920×1080/59.94p	YPbPr 4:2:2	
1920×1080/50p	YPbPr 4:2:2	
2048×1080/24p		RGB 4:4:4
2048×1080/24PsF		RGB 4:4:4

## 2K × 1K Signal Support

The ColorEdge CG232W and CG303W support 2048 × 1080 signals which are compliant with the DCI standard. A left and right screen panning feature operated from the monitor's on-screen display menu (OSD) allows viewing of all areas of an image with the CG232W.

Black Frame Insertion and Pseudo-Interlace

The ColorEdge CG232W's panel display frame rate of 120 Hz allows for black screen insertion (pseudo-impulse), which virtually eliminates motion artifacts and blur when showing fast-paced moving images. With interlace signals, a pseudo-interlace feature minimizes motion artifacts, giving this LCD monitor smooth motion picture playback akin to that of a CRT.

60 Hz Input

120 Hz Display

| 1/60 sec. | 1/60 sec. | ... |

| 1/120 sec. | black frame insert | 1/120 sec. | black frame insert | ... |
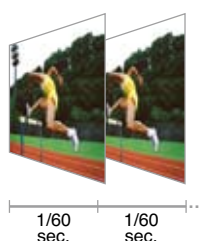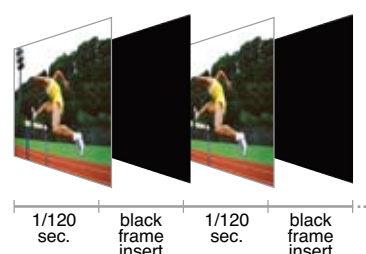
Range Extension

A range extension feature with the ColorEdge CG232W and CG245W gives studio professionals the advantage of using the monitor's entire 10-bit grayscale range to see more detail when doing fine editing work in very dark and very light tones. Setting the screen to show the entire 10-bit grayscale range reveals either 6% or 14% more gray tones from 0 (true black) to 1023 (true white) compared to common broadcast signal display range capabilities.

## Short- and Long-Term Brightness Stabilization
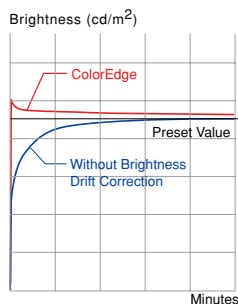
Stable brightness is a key factor in achieving accurate color. However, fluctuations in backlight brightness normally occur from startup and can last for up to two hours. Furthermore, changes in ambient temperature can cause brightness levels to fluctuate, as can the inevitable deterioration of the backlight's fluorescent lamp over time. An EIZO patented backlight sensor detects and counteracts these influences so brightness is always stable and product life is extended.

Factory Adjustment of Gamma

Gamma level for each ColorEdge monitor is adjusted at the factory. This is accomplished by measuring the R, G, and B gamma values from 0 – 255, then using the monitor's 12-bit look-up table (4,081 tones per RGB) to select the 256 most appropriate tones to achieve the desired value. Each monitor comes with an adjustment data sheet that certifies the measurement results of the gamma value.
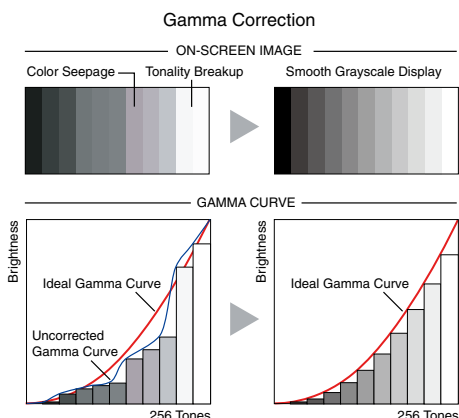

Industry's First Self-Calibrating Monitor

The ColorEdge CG245W comes with an industry-first built-in calibration sensor. The sensor is housed within the monitor's upper bezel and swings down only when calibrating. This eliminates the need for an external sensor, lets you calibrate when your computer is off, and saves time by letting you schedule the monitor to self-calibrate while you are not working. To ensure predictable and accurate calibration across the screen, EIZO calibrates the center of the screen at its factory and correlates the built-in sensor to these results. Furthermore, if you are working with other ColorEdge monitors and need to standardize calibration, you can use the bundled ColorNavigator software to correlate the calibration results of the built-in sensor to the results obtained from an external calibration device.

Brightness and Color Uniformity with DUE

Brightness and chroma uniformity errors are characteristic of all LCD panels. To counteract this, EIZO has equipped these ColorEdge monitors with its latest integrated circuit. This circuit features a Digital Uniformity Equalizer (DUE) function. DUE compensates brightness and chroma based on data measured at our factory so that the entire screen will be almost uniform at each gray level from 0 to 255. A certificate indicating the uniformity compensation results is packaged with each monitor.
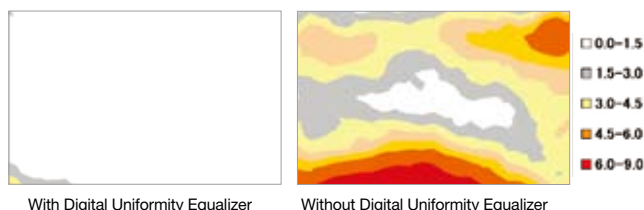
Color-separated image with Delta-E*ab distribution across the screen on the CG232W (gray level 128 measured).

Compare Monitors

	5-Year Warranty	Brightness and Color Uniformity with DUE	16-Bit Internal Processing	Hardware Calibration	Self Calibration (Built-in Sensor)	Gamma Correction	Brightness Stabilization	3D LUT	Preset Color Modes	PC 10-Bit Video Support	2K × 1K Signal Support	Black Frame Insertion	Range Extension	Pseudo-Interlace	SDI Signal Support
CG232W	●	●	●	●		●	●	●	●	●	●	●	●	●	●
CG241W	●	●	●	●		●	●								
CG243W	●	●	●	●		●	●	●	●	●					
CG245W	●	●	●	●	●	●	●	●	●	●			●		
CG303W	●	●	●	●		●	●		●		●				

For Editing and Reference ← ———————————————————————— → ← For Reference →

● *indicates supported feature.*

SPECIFICIATIONS

	ColorEdge CG232W	ColorEdge CG241W	ColorEdge CG243W	ColorEdge CG245W	ColorEdge CG303W
Panel Size	22.5" / 57 cm (570 mm diagonal)	24.1" / 61 cm (611 mm diagonal)	24.1" / 61 cm (611 mm diagonal)	24.1" / 61 cm (611 mm diagonal)	29.8" / 76 cm (756 mm diagonal)
Viewing Angles (H, V)	176°, 176° (at contrast ratio of 10:1)	178°, 178° (at contrast ratio of 10:1)	178°, 178° (at contrast ratio of 10:1)	178°, 178° (at contrast ratio of 10:1)	178°, 178° (at contrast ratio of 10:1)
Panel Type	IPS	VA (with overdrive circuit)	IPS (with overdrive circuit)	IPS (with overdrive circuit)	IPS
Brightness	380 cd/m² (maximum); 100 cd/m² or less (recommended[1])	300 cd/m² (maximum); 120 cd/m² or less (recommended[1])	270 cd/m² (maximum); 120 cd/m² or less (recommended[1])	270 cd/m² (maximum); 120 cd/m² or less (recommended[1])	260 cd/m² (maximum); 120 cd/m² or less (recommended[1])
Contrast	720:1	850:1	850:1	850:1	850:1
Response Time (Typical)	Black-white-black: 12 ms	Gray-to-gray: 6 ms, black-white-black: 16 ms	Gray-to-gray: 5 ms, black-white-black: 13 ms	Gray-to-gray: 5 ms, black-white-black: 13 ms	Black-white-black: 12 ms
Native Resolution	1920 × 1200	1920 × 1200	1920 × 1200	1920 × 1200	Signal 1: 2560 × 1600 Signal 2: 1920 × 1200
Pixel Pitch	0.252 × 0.252 mm	0.270 × 0.270 mm	0.270 × 0.270 mm	0.270 × 0.270 mm	0.2505 × 0.2505 mm
Display Colors	1.07 billion from a palette of 68 billion	16.77 million from a palette of 68 billion	DVI: 16.77 million from a palette of 68 billion DisplayPort: 1.07 billion from a palette of 68 billion	DVI: 16.77 million from a palette of 68 billion DisplayPort: 1.07 billion from a palette of 68 billion	DVI (8 bit): 16.77 million from a palette of 68 billion DVI (10 bit): 1.07 billion from a palette of 68 billion
Wide Gamut Coverage[2]	sRGB: 100%, Rec709: 99%, EBU: 99%, SMPTE-C: 100%, Adobe RGB: 97%, DCI: 87%	sRGB: 95%, Rec709: 98%, EBU: 98%, SMPTE-C: 100%, Adobe RGB: 96%, DCI: 87%	sRGB: 100%, Rec709: 100%, EBU: 100%, SMPTE-C: 100%, Adobe RGB: 98%, DCI: 92%	sRGB/Rec709/EBU/SMPTE-C: 100%, Adobe RGB: 98%, vs. NTSC: 102%, DCI: 92%	sRGB/Rec709/EBU/SMPTE-C: 100%, Adobe RGB: 98%, vs. NTSC: 93%, DCI: 92%
Look-Up Table	12 bits per color	12 bits per color	12 bits per color	12 bits per color	12 bits per color
Internal Processing	16 bits per color	16 bits per color	16 bits per color	16 bits per color	16 bits per color
Screen Uniformity[3]	Entire Screen: ΔE≤3	Entire Screen: ΔE≤3	Entire Screen: ΔE≤3	Entire Screen: ΔE≤3	Center: ΔE≤3, Perimeter: ΔE≤5
Cabinet Colors	Black	Black	Black	Black	Black
Dot Clock	Analog: 162 MHz, Digital: 162 MHz	Analog: 202.5 MHz, Digital: 164.5 MHz	Analog: 170 MHz, Digital: 164.5 MHz	Analog: 170 MHz, Digital: 164.5 MHz	269 MHz
Analog Scanning Frequency (H, V)	26 – 92 kHz, 23.8 – 86 Hz (non-interlace)	24 – 94 kHz, 47.5 – 86 Hz	24 – 76 kHz, 47.5 – 86 Hz	24 – 76 kHz, 47.5 – 86 Hz (non-interlace)	–
Digital Scanning Frequency (H, V)	26 – 78 kH, 23.8 – 61 Hz (VGA Text: 69 – 71 Hz) (non-interlace)	26 – 78 kHz, 47.5 – 63 Hz (VGA Text: 69 – 71 Hz)	26 – 78 kHz, 23.75 – 63 Hz (VGA Text: 69 – 71 Hz)	26 – 78 kHz, 23.75 – 63 Hz (VGA Text: 69 – 71 Hz)	26 – 100 kHz, 29.5 – 30.5 Hz/59 – 61 Hz (VGA Text: 69 – 71 Hz)
Video Input Terminals	D-Sub mini 15 pin, DVI-D 24 pin (with HDCP), BNC × 2 (single link SD-SDI/HD-SDI × 2 or dual link SDI × 1)	DVI-I 29 pin × 2 (with HDCP)	DVI-I 29 pin × 2 (with HDCP), DisplayPort (with HDCP)	DVI-I 29 pin × 2 (with HDCP), DisplayPort (with HDCP)	DVI-D 24 pin × 2 (dual link × 1, single link × 1 [with HDCP])
Video Output Terminals	BNC × 2 (single link SD-SDI/HD-SDI × 2 or dual link SDI × 1 [loop-through])	–	–	–	–
USB Ports / Standard	1 upstream, 2 downstream / USB 2.0	1 upstream, 2 downstream / USB 2.0	1 upstream, 2 downstream / USB 2.0	1 upstream, 2 downstream / USB 2.0	1 upstream, 2 downstream / USB 2.0
Power Requirements	AC 100 – 120 V / 200 – 240 V, 50 / 60 Hz	AC 100 – 120 V / 200 – 240 V, 50 / 60 Hz	AC 100 – 120 V / 200 – 240 V, 50 / 60 Hz	AC 100 – 120 V / 200 – 240 V, 50 / 60 Hz	AC 100 – 120 V / 200 – 240 V, 50 / 60 Hz
Power Consumption	110 W (maximum)	110 W (maximum)	95 W (maximum)	100 W (maximum)	170 W (maximum)
Power Save Mode	Less than 7 W	Less than 2 W	Less than 0.9 W	Less than 1 W	Less than 1.5 W
Height Adjustment Range	118 mm	82 mm	82 mm	157 mm	118 mm
Tilt / Swivel / Pivot	40° Up, 0° Down / 35° Right, 35° Left / –	40° Up, 0° Down / 35° Right, 35° Left / 90°	40° Up, 0° Down / 35° Right, 35° Left / 90°	30° Up, 0° Down / 172° Right, 172° Left / 90°	40° Up, 0° Down / 35° Right, 35° Left / 90°
Dimensions (W × H × D)	With Stand: 567 × 481 – 599 × 255 mm; Without Stand: 567 × 389 × 113 mm	With Stand: 566 × 456 – 538 × 230 mm; Without Stand: 566 × 367 × 85 mm	With Stand: 566 × 456 – 538 × 230 mm; Without Stand: 566 × 367 × 85 mm	With Stand: 566 × 396.5 – 553.5 × 242 – 256 mm; Without Stand: 566 × 382 × 92.5 mm	With Stand: 689 × 511.5 – 629.5 × 254.7 mm; Without Stand: 689 × 450 × 90 mm
Net Weight	With Stand: 13.4 kg Without Stand: 8.8 kg	With Stand: 11 kg Without Stand: 7.4 kg	With Stand: 10.7 kg Without Stand: 7.1 kg	With Stand: 10.1 kg Without Stand: 7.1 kg	With Stand: 16.1 kg Without Stand: 11.6 kg
Preset Modes	Color Mode (Custom, sRGB, EBU, Rec709, SMPTE-C, DCI, Calibration)	Fine Contrast (Custom, sRGB, Calibration, Emulation)	Color Mode (Custom, sRGB, Rec709, EBU, SMPTE-C, DCI, Calibration)	Color Mode (Custom, Adobe RGB, sRGB, Rec709, EBU, SMPTE-C, DCI, Calibration)	Fine Contrast (Custom, sRGB, Calibration, Emulation)
Supplied Accessories	AC power cord, signal cables (DVI-D – DVI-D, D-Sub – D-Sub mini 15 pin), USB cable, setup guide, EIZO LCD Utility Disk (ColorNavigator software, PDF user's manual), adjustment certificate, quick reference, 4 screws for mount option, warranty card	AC power cord, signal cables (DVI-D – DVI-D, DVI-I – D-Sub mini 15 pin), USB cable, setup guide, EIZO LCD Utility Disk (ColorNavigator software, PDF user's manual, ICC Profile), adjustment certificate, ScreenCleaner, monitor hood, quick reference, 4 screws for mount option, warranty card	AC power cord, signal cables (DVI-D – DVI-D, DisplayPort – DisplayPort), USB cable, setup guide, EIZO LCD Utility Disk (ColorNavigator software, PDF user's manual), adjustment certificate, ScreenCleaner, monitor hood, quick reference, 4 screws for mount option, warranty card	AC power cord, signal cables (DVI-D – DVI-D, DisplayPort – DisplayPort), USB cable, setup guide, EIZO LCD Utility Disk (ColorNavigator software, PDF user's manual), adjustment certificate, ScreenCleaner, monitor hood, quick reference, warranty card	AC power cord, signal cables (DVI-D – DVI-D, DVI-D – DVI-D [dual link supported]), USB cable, setup guide, EIZO LCD Utility Disk (ColorNavigator software, PDF user's manual), adjustment certificate, ScreenCleaner, monitor hood, quick reference, warranty card
Warranty	Five Years[1]	Five Years[1]	Five Years[1]	Five Years[1]	Five Years[1]

[1] The usage time is limited to 30,000 hours and the warranty period of the LCD panel is limited to three years from the date of purchase. The warranty period of the backlight is warranted only if they are used within the recommended brightness of up to and including 100 cd/m² for the CG232W and 120 cd/m² for the CG303W, CG245W, CG243W, and CG241W with the color temperature for the aforementioned models between 5,000 K – 6,500 K and limited to three years from the date of purchase subject to the usage time being less than or equal to 10,000 hours. [2] Measured at gray level 128 and color temperature of 5000 K.
With current LCD technology, a panel may contain a limited number of missing or flickering pixels.

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